

Title: Pierce College/JPL Solar System Lab
Institution: Los Angeles Community College District (Los Angeles Pierce College)
City/State: Woodland Hills, CA
PI: Travis Orloff

Summary: Los Angeles Pierce College serves over 20,000 students which come from across the Los Angeles metropolitan area. Minority enrollment at Pierce College is over 60% with Hispanic students making up the majority of our minority enrollment. Our high minority enrollment places Pierce College in the position to team with NASA in order to fulfill both institutions goal of providing resources and access to minority students. The Minority Undergraduate Research and Education Program (MUREP) recently announced the Innovations in Space Technology Curriculum (MISTC) directly aimed at two-year, minority serving institutions; this description perfectly fits Pierce College. MISTC seeks proposals aiming to accomplish three primary goals:

(1) revise or develop at least one new course that will introduce and enhance student understanding of space technology development; (2) identify and address campus laboratory equipment needs to support student learning in the course(s); and (3) hands-on learning opportunities related to the course(s) through internships at NASA Centers or facilities. Pierce College can accomplish all three goals and we appreciate the opportunity to do so. First, we currently offer a lecture class entitled "Introduction to the Solar System". To address MISTC's first goal we will develop a lab course to go alongside the lecture and make minor modifications to the lecture course so that both courses tie into each other fully. Second, based on our current plans for this lab course we have already identified campus laboratory needs. However, we will also team with our partner NASA Center to find any additional equipment or resources necessary to fulfilling the goals of both courses. Third, we aim to develop a partnership with NASA's Jet Propulsion Laboratory (JPL) to provide hands-on learning opportunities and internships for our participating minority students. We believe a partnership with NASA through MISTC could greatly benefit our students. The goal of many of our students in attending Pierce College is to transfer to a four-year school. In order to transfer they must meet a number of requirements as listed in the Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education Breadth Requirements (CSU GE). In particular, students must complete a physical science lecture and lab course (IGETC 5 and CSU GE B1 and B3). Currently, a student that takes our Introduction to the Solar System course would still be required to take another physical science lecture in order to participate in a lab course. Internal research on student outcomes shows many students are progressively less likely to transfer as they accumulate units beyond the minimum needed for the IGETC and CSU transfer programs. Adding a lab course to our current lecture course means that students would have a more direct path to transfer since they no longer have to take additional classes in order to meet their lab requirement to transfer. We also believe a partnership with NASA through MISTC could greatly benefit NASA and the local space and aerospace industry. Los Angeles has a particularly large space and aerospace industry. These companies require a diverse, high-tech, and highly skilled work force. This program can help us introduce our diverse population of students to the practices and skills used in these industries and help them prepare to join such a work force.